

A very similar shell to *E. thelodonta*, differing in being composed of more whorls, namely seven, as against six, greater attenuation of build, and feebler development of lip, though the various plicæ are arranged as those of the above-mentioned species. It is never difficult, however, to distinguish them.

XIV.—*Descriptions of Seventeen new Terrestrial Mollusks from South or Central Africa, in the Collection of Edgar L. Layard, Esq.* By JAMES COSMO MELVILL, M.A., F.L.S., and JOHN HENRY PONSONBY, F.Z.S.

[Plates IV.—VI.]

THE seventeen species which form the subject of the present paper are from the collection of Mr. Edgar L. Layard, who has most kindly placed them at our disposal for description.

1. *Nanina hypochlora*, sp. n. (Pl. IV. fig. 8.)

N. testa imperforata, effusa, pallide stramineo-cornea, vitrea, lævi, nitida; anfractibus quinque, planato-depressis, ultimo rapide accrescente; apertura ovata; peristomate simplici, tenui.
Long. 4.50, lat. 12 mill.

Hab. Cape of Good Hope (*Edgar L. Layard*).

A plain, smooth, shining, and delicate little species, somewhat flattened, the last whorl much the largest, lip thin, aperture ovate.

Though of simple character it does not appear to have been previously noticed or described. Two specimens, precisely similar.

2. *Helix (Pella) rhysodes*, sp. n. (Pl. IV. fig. 2.)

H. testa profunde sed anguste umbilicata, tenui, depresso-convexa, corneo-fuscescente, ad apicem planato-depressa; anfractibus quinque, apud suturas compressis, undique longitudinaliter liris albulis irregularibus oblique cinctis, ultimo anfractu ad medium vix angulato; apertura lunari-ovata; peristomate simplici, tenui, ad marginem columellarem reflexo.
Long. 4, lat. 6 mill.

Hab. "S. Africa" (*E. L. Layard*).

Unfortunately Mr. Layard has no record of the precise

habitat of this little species, of which there are three specimens, two being hardly full-grown, and consequently smaller than that selected for the type. It falls under the "*bisculpta*" section of *Pella*, considered typical in Tryon's Manual, while it is there mentioned that the name "*Sheldonia*" has been employed by Ancey (1887) for such species as *natalensis*, *Trotteriana*, and *cotyledonis*.

H. rhyssodes is thin, horny, fuscous, five-whorled, with white oblique liræ longitudinally crossing, somewhat irregularly, there being here and there small spaces left quite clear and free; and the shell presents a wrinkled appearance in consequence. The umbilicus is deep, but narrow; mouth lunar-ovate, lip a little reflexed at the columellar margin.

3. *Helix (Pella) tuguriolum*, sp. n. (Pl. V. fig. 5.)

H. testa obtecte umbilicata, tenui, albo-cornea, subplanata, infra ventricosa; anfractibus quinque, longitudinaliter indistinctissime striatis, transversim tenuiter et minute concentrico-decussatis; apertura lunari-ovata; peristomate simplici, ad marginem columellarem paullo reflexo.

Long. 6 (sp. majoris), lat. 8.50 mill.

Hab. "S. Africa" (*E. L. Layard*).

Three specimens, of which two are perfect. A plain, smoothish, horny shell, bearing indistinct lines of longitudinal ribbing (when closely examined with a lens), very minutely decussated by spiral striæ. Allied to *H. Lovéni* (Krauss), represented by only a poor specimen in the National Collection, South Kensington, from which this species seems to differ chiefly in the absence of any keel at the periphery, and likewise in there being no sign of epidermis, which in *H. Lovéni* adheres to the ribs and renders them more conspicuous.

4. *Helix (Pella) erateina*, sp. n. (Pl. V. fig. 3.)

H. testa profunde sed anguste umbilicata, lenticulari, depresso-conica; anfractibus quinque, cinereis, undique confertim costulis lamellosis regularibus oblique cinctis, flammisque rufis longitudinaliter decoratis, ad suturas quasi-crenulatis, anfractu ultimo apud peripheriam serri-carinato; apertura subquadrata; peristomate simplici, ad marginem columellarem paulum reflexo.

Long. 2.25, lat. 3 mili.

Hab. Bredasdorp, in sand under stones; and Cape Point (*E. L. Layard*).

A most elegant and beautiful little shell, found, as noticed above, by Mr. Layard in two localities; we have taken the

Bredasdorp specimen as the type. Though minute, the sculpture is most elaborate, with fine oblique lirulæ extending over the entire surface. The umbilicus is deep, though narrow, last whorl serrately keeled, aperture somewhat square, lip simple.

We provisionally place this species under *Pella* on account of its similarity of texture to *H. bisculpta* (Benson) and allies; but there can be no doubt but that in some respects it approaches the subgenus *Martensia* (Semper).

5. *Helix (Pella) bathycæle*, sp. n. (Pl. V. fig. 4.)

H. testa minuta, profundissimo umbilicata, tenui, corneo-virente, planorbiformi, apice fere immerso; anfractibus sex, convexis, ad suturas impressis, liris regularibus longitudinaliter undique cinctis, anfractu ultimo rapide acrescente, infra effusa; peristomate tenui, simplici; apertura lunari.

Long. 1.50, lat. 2.50 mill.

Hab. Under dead leaves in the bush, Craigie Burn, Somerset East, S. Africa (*Miss Mary Layard Bowker*).

Another very lovely species, though minute, and conspicuous for its flattened upper whorls as well as its deep perspective umbilicus, the whole surface of the greenish-horny shell being decorated with fine longitudinal regular liræ.

Five specimens.

6. *Helix (Trochozonites) dioryx*, sp. n. (Pl. V. fig. 2.)

H. testa conico-pyramidali, obtecte umbilicata, ad basin planato-convexa, trochiformi, opaca, albo-grisea, serupulosa, epidermide brunnea tecta; anfractibus septem, infra suturas canaliculatis, costulis rugulosis regulariter oblique dispositis, ultimo ad peripheriam carinato; apertura quadrata; peristomate tenui, simplici, apud marginem columellarem paullum reflexo.

Long. 7, lat. 6 mill.

Hab. On sand-dunes, Robbe Bay, S. Africa (*E. L. Layard*).

Allied to *H. Folini* (Morelet), from W. Africa. The shell is pyramidal, with conical apex, seven-whorled, the whorls being very deeply transversely channelled just below the sutures and covered with a brownish epidermis. There are rough wrinkled liræ or riblets at regular distances longitudinally crossing the whorls, the mouth being simple, with slight columellar marginal reflexion.

7. *Buliminus Layardi*, sp. n. (Pl. V. fig. 11.)

B. testa imperforata, solidiuscula, lævi, ovato-pyramidali, apice obtuso; anfractibus octo, subventricosis, et ad suturas compressis, flammis brunneis hic illic longitudinaliter depictis; apertura oblonga, fauce pallida; peristomate subexpanso, solidiusculo, ad marginem columellarem late reflexo.

Long. 12, lat. 6 mill.

Hab Kobis (*E. L. Layard*).

This seems to us to differ from *B. Burchelli* (Gray) in the smaller size, want of umbilication, greater reflexion of columella, less ventricose whorls, and more vivid painting. Mr. Layard remarks that one of his three specimens shows a rather solid epiphragm *in situ*, which would seem to indicate æstivation at one period of the year.

8. *Buliminus quisqualis*, sp. n. (Pl. V. fig. 10.)

B. testa ovato-oblonga, obtecte umbilicata, candide nitente, pellucida, spiræ suturis subimpressis, apice obtuso; anfractibus sex, ventricosulis; apertura parva, oblonga, labro simplici, paullo ad basin marginis columellaris reflexo.

Long. 7·25, lat. 3·50 mill.

Hab. Moçambic (*E. L. Layard*).

A small white, subpellucid, little species, with somewhat of the aspect of a *Stenogyra*.

9. *Buliminus lamoensis*, sp. n. (Pl. V. fig. 12.)

B. testa oblongo-turrita, obtecte umbilicata, cornea, subopaca, apice obtuso; anfractibus octo, longitudinaliter confertim crasse obliquistriatis; apertura fere oblonga, labro simplici.

Long. 12, lat. 4·50 mill.

Hab. Lamo, E. Africa (*E. L. Layard*).

Very like a *Stenogyra*, being a simply formed, somewhat plain, turreted shell.

10. *Stenogyra Chapmani*, sp. n. (Pl. VI. fig. 3.)

S. testa gracillima, tenui, candida, aciculari, elongato-turrita; anfractibus novem, ad suturas gradatulis, binis ad apicem effusis, longitudinaliter oblique striatis, ultimo oblongo, recto, columella truncata; apertura oblongo-ovata; peristomate simplici, tenui.

Long. 9·50, lat. 2·25 mill.

Hab. Ovampo-land, collected by the late Mr. Chapman (*E. L. Layard*).

An extremely pretty though very small shell, of which the three specimens in Mr. Layard's collection are all more or less imperfect. They bear a decided superficial resemblance to certain marine forms of the genus *Chemnitzia*, the shell being very delicate, white, eight- or nine-whorled, the whorls gradated at the sutures and longitudinally finely ribbed with raised striae.

11. *Cionella ovampoensis*, sp. n. (Pl. VI. fig. 1.)

C. testa parva, aciculari, candida, tenuissima, apice obtuso; anfractibus quatuor, ultimo producto, columella ad basin truncata; apertura oblonga, labro simplici.

Long. 3, lat. 1 mill.

Hab. Ovampo-land (*E. L. Layard*).

A very elegant, pure white, four-whorled shell, with very obtuse apex, a little recalling the *Cecilianella acicula* (Müll.) of Europe and the British Isles.

12. *Pupa elizabethensis*, sp. n. (Pl. V. fig. 13.)

P. testa minuta, aperte rimata, vitrea, albo-nitente, breviter cylindrica; anfractibus septem, lævibus subventricosis, minutissime sub lente striatulis; apertura rotundata, plicis duabus intrantibus munita, altera parietali, altera columellari valde intrante; peristomate paullum reflexo.

Long. 3, lat. 1·20 mill.

Hab. Port Elizabeth (*Miss Glanville*).

This little *Pupa* is a shining, white, smooth species; with a strong magnifier the slightly ventricose whorls are found to be closely and finely striated; the mouth is furnished with two teeth-plaits, both deep-seated and extending far back, one parietal, the other behind the columellar margin; the lip is also slightly reflexed.

Four specimens.

13. *Pupa ovampoensis*, sp. n. (Pl. VI. fig. 11.)

P. testa rimata, prolongato-cylindrica, alba, tenui; anfractibus quinque, ventricosis; apertura subquadrata; peristomate effuso, dentibus duobus munito, altero parietali, altero subtus marginem columellarem intrante.

Long. 2, lat. 1 mill.

Hab. Ovampo-land (*E. L. Layard*).

A very neat though minute species, with conspicuously

swollen whorls; the effuse lip furnished with two deeply-seated plaited teeth, one parietal, the other columellar.

14. *Ennea Bowkeræ*, sp. n. (Pl. VI. fig. 9.)

E. testa minuta, rimata, cylindrica, albescens, subpellucida; anfractibus septem, longitudinaliter undique confertim oblique tenuistriatis, anfractu ultimo extus serobiculato; apertura callosa, trigono-ovata; peristomate tribus dentibus munito, altero valido parietali, altero incrassato labiali, tertio minore basali, subtusque marginem columellarem ad imam faucem plica interna aditum fere claudente.

Long. 3, lat. 1.25 mill.

Hab. East London (*Miss Mary L. Bowker*).

A very small shell, but very wonderful in its symmetry, and complicated as regards its orifice. It is seven-whorled, cylindrical, the whorls being uniformly densely striated; mouth somewhat triangular, furnished with three teeth, of which, firstly, a large and projecting parietal tooth is conspicuous, and also another on the inner thickened edge of the outer lip; a smaller and simple basal one completes the prominences of the peristome, but a large callous plait below the columellar margin almost serves to close the throat completely.

Four specimens, but only one in good condition.

15. *Ennea Mariæ*, sp. n. (Pl. VI. fig. 12.)

E. testa rimata, breviter cylindriformi, vitrea, lævi; anfractibus sex, ad apicem obtusissimis, lævibus, linea transversim infra suturas circumambiente; apertura trigono-ovata; peristomate dentibus quatuor instructo, uno parietali, secundo labiali bifurcato, tertio minuto basali, quarto ad marginem columellarem et intra valde ad imam faucem penetrante.

Long. 2.75, lat. 1 mill.

Hab. Under decayed leaves, Craigie Burn, Somerset East, S. Africa (*Miss Mary L. Bowker*).

A very pretty little shining cylindrical species, quite plain and smooth, save for a transverse, compressed, sulcated line encircling the whorls a little below the sutures and running parallel with them. The mouth is furnished with four teeth, one parietal, one on the inner edge of the thickened outer lip, a very small one at the base, and a fourth at the columellar margin, which joins on to a large internal plait which well nigh closes the throat below.

Four specimens, all in good condition and precisely similar.

We have much pleasure in associating the name of Mr. Layard's god-daughter, Miss Mary Layard Bowker, with both this and the preceding species, both having been discovered by her, and, as far as we can ascertain, found by her alone.

16. *Ennea aperostoma*, sp. n. (Pl. VI. fig. 10.)

E. testa parum rimata, cylindrica, albo-cinerea, pellucente; anfractibus septem, ad apicem compressulis, obtusis apud suturas impressis, striis obliquis undique longitudinaliter instructis; apertura ovato-auriformi; peristomate crassiusculo, triplicato, plica parietali columellariquo utraque prolongata, valida, profunde intrante, labro intus tridentato.

Long. 8.75, lat. 3.50 mill.

Hab. Natal (*E. L. Layard*).

Allied to *E. Wahlbergi* (Pfr.). There are three specimens on the tablet in Mr. Layard's collection, of which we have taken that with the whorls delicately obliquely striated as the type. The other two are quite smooth, and we would designate these as var. *lissophanes*, which seems in other respects to agree with the type. This species is at once distinguished from any others of the genus described in this or our former paper ('Annals,' Sept. 1891) by the comparatively open character of the mouth. This is ovately auriform; the parietal plait is well developed; the columellar tooth is broad, flat, and enters deeply into the shell; there is a small tooth at the base and the outer lip is furnished with a raised callus from which spring two teeth, the lower one small, the upper one larger and entering more deeply.

17. *Ennea scrobiculata*, sp. n. (Pl. VI. fig. 8.)

E. testa rimata, breviter cylindrica, albo-cinerea, subdiaphana; anfractibus novem, tribus ad apicem gradatim decrescentibus, quatuor his proximis fere uniformibus, duobus ultimis majoribus, omnibus striis obliquis confertim longitudinaliter decoratis, anfractu ultimo extus multum scrobiculato et prolongato; apertura trigona; peristomate incrassato, plica parietali magna, columellari valde intrante et ad imam faucem fere omnino aditum claudente, dente labiali patulo.

Long. 5.75, lat. 2 mill.

Hab. Natal (*E. L. Layard*).

This shell is queried by Mr. Layard as appertaining to *E. Kraussi* (Pfr.). It is an extremely interesting little species, owing to the attenuated constriction behind the outer lip; the mouth is well furnished with plicæ and teeth large in propor-

tion to the orifice, so that the inner throat of the shell at some little distance down appears almost closed.

Three specimens, of which two are in good condition.

We take this opportunity of correcting two errors that have appeared. In our paper in *Ann. & Mag. Nat. Hist.* for Sept. 1891 the dimensions of *Cyclostoma transvaalense* should have been long. 12, lat. $11\frac{1}{2}$ mill. In the same paper it will be noticed that there is a discrepancy between the number of teeth in *Vertigo thaumasta* as stated in the Latin and the English text. The former is correct, for it will be seen on reference to the plate that the shell has *three* teeth.

EXPLANATION OF THE PLATES.

PLATE IV.

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| <i>Fig. 1. Helix viridescens</i> †. | <i>Fig. 7. Helix lygæa.</i> |
| <i>Fig. 2. — rhysodes.</i> | <i>Fig. 8. — hypochlora.</i> |
| <i>Fig. 3. — ceterima.</i> | <i>Fig. 9. — trichosteiroma.</i> |
| <i>Fig. 4. — Crawfordi</i> *. | <i>Fig. 10. — gypsina</i> †. |
| <i>Fig. 5. — pretoriensis</i> *. | <i>Fig. 11. — porphyrostoma</i> †. |
| <i>Fig. 6. — hottentota</i> †. | <i>Fig. 12. — numaquensis</i> †. |

PLATE V.

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| <i>Fig. 1. Helix livicostata</i> †. | <i>Fig. 8. Vitrina cingulata</i> *. |
| <i>Fig. 2. — dioryx.</i> | <i>Fig. 9. — zonamydra</i> *. |
| <i>Fig. 3. — erateina.</i> | <i>Fig. 10. Buliminus quisqualis.</i> |
| <i>Fig. 4. — bathycale.</i> | <i>Fig. 11. — Layardi.</i> |
| <i>Fig. 5. — tuguriolum.</i> | <i>Fig. 12. — lamocensis.</i> |
| <i>Fig. 6. Cyclostoma transvaalense</i> †. | <i>Fig. 13. Pupa elizabethensis.</i> |
| <i>Fig. 7. Pisidium Langleyanum</i> †. | |

PLATE VI.

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| <i>Fig. 1. Cionella orampoensis.</i> | <i>Fig. 7. Vertigo thaumasta</i> †. |
| <i>Fig. 2. Stenogyra cacuminata.</i> | <i>Fig. 8. Ennea scrobiculata.</i> |
| <i>Fig. 3. — Chapmani.</i> | <i>Fig. 9. — Bowkera.</i> |
| <i>Fig. 4. Ennea thelodonta.</i> | <i>Fig. 10. — aperostoma.</i> |
| <i>Fig. 5. — numita.</i> | <i>Fig. 11. Pupa orampoensis.</i> |
| <i>Fig. 6. — dolichoskia.</i> | <i>Fig. 12. Ennea Marie.</i> |

* Described in the 'Annals' for Dec. 1890.

† Ditto for Sept. 1891.

XV.—On the Skeleton of a Chimæroid Fish (*Ischyodus*) from the Oxford Clay of Christian Malford, Wiltshire. By A. SMITH WOODWARD, F.G.S.

OF the later Jurassic Chimæroid fishes several skeletons have been discovered in a good state of preservation in the Bavarian Lithographic Stone (Lower Kimmeridgian)*. In

* *Ischyodus avitus*: *Chimæra* (*Ganodus*) *avita*, H. von Meyer, Palæontogr. vol. x. (1862), p. 87, pl. xii.—*Ischyodus Quenstedti*, A. Wagner, Abh.